

**CLAIMS**

We claim:

1. A saw comprising:

a base assembly comprising a base and a table supported by the base;

5 a first rail attached to the base assembly, the first rail having a longitudinal axis; and

a cross-cut table slidably attached to the first rail, the cross-cut table being slidable in a sliding direction substantially perpendicular to the longitudinal axis of the rail and adjustable along a vertical axis.

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2. The saw of Claim 1, further comprising a second rail attached to the base assembly and connected to the cross-cut table.

3. The saw of Claim 2, wherein the second rail has a longitudinal axis

15 parallel to the longitudinal axis of the first rail.

4. The saw of Claim 2, further comprising a subpanel disposed on the first and second rails.

20 5. The saw of Claim 4, further comprising at least one slide assembly fixedly disposed between the subpanel and the cross-cut table.

6. The saw of Claim 4, wherein said subpanel is vertically movable  
respective to said first rail.

7. The saw of Claim 4, wherein said subpanel is horizontally movable  
5 respective to the table.

8. The saw of Claim 4, wherein said subpanel is horizontally movable  
respective to the first rail.

10 9. The saw of Claim 4, wherein the sliding direction is adjustable by  
moving the subpanel relative to the table.

10. The saw of Claim 1, wherein the table has a groove for receiving a  
miter gauge.

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11. The saw of Claim 10, wherein the table has a locking mechanism for  
locking the miter gauge in a selected position in the groove.

12. The saw of Claim 10, further comprising a plate movably disposed on  
20 the table, the plate being movable between a first position locking the miter  
gauge in a selected position in the groove, and a second position unlocking the  
miter gauge.

13. A miter gauge comprising:

a guide bar;  
a miter head assembly rotatably attached to the guide bar;  
a detent plate slidably attached to the miter head; and  
a scale plate slidably attached to the miter head and the detent plate.

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14. The miter gauge of Claim 13, wherein the scale plate is disposed on the detent plate.

15. The miter gauge of Claim 13, wherein the detent plate is attached to  
10 the miter head with a predetermined number of screws, and the scale plate is attached to the miter head and the detent plate with less than the predetermined number of screws.

16. A miter gauge comprising:  
15 a guide bar;  
a miter head assembly rotatably attached to the guide bar;  
a detent plate slidably attached to the miter head; and  
a latch assembly attached to the guide bar, the latch assembly comprising a channel, and a slidable pin sliding along the channel and engaging the detent  
20 plate, wherein total number of lines of contact between the detent plate and the pin and between the channel and the pin is less than infinity.

17. The miter gauge of Claim 16, wherein the total number of lines of contact is between 3 and 10.

18. The miter gauge of Claim 16, wherein the total number of lines of  
5 contact is 4.

19. The miter gauge of Claim 16, wherein the channel is slanted towards the detent plate.

10 20. A saw comprising:  
a base assembly comprising a base and a table supported by the base;  
a miter groove disposed in the table; and  
a miter gauge lock assembly adjacent to the miter groove for locking a  
miter gauge disposed in the miter groove.

15 21. The saw of Claim 20, wherein the miter gauge lock assembly comprises a lock plate disposed adjacent to the miter groove.

22. The saw of Claim 21, wherein the miter gauge lock assembly further  
20 comprises:

a threaded shaft contacting the lock plate and threadedly engaged to threads disposed within the base assembly; and a knob connected to the threaded shaft for rotating the threaded shaft.

23. The saw of Claim 21, wherein the miter gauge lock assembly further comprises a spring biasing the lock plate towards an unlocked position.

5           24. A fence assembly comprising:  
a fence head; and  
a fence beam rotatably connected to the fence head, allowing rotational adjustment of the fence beam relative to the fence head.

10           25. The fence assembly of Claim 24, further comprising a plate fixedly attached to the fence beam and rotatably connected to the fence head.

            26. A fence assembly comprising:  
a fence beam; and  
15 a fence head connected to the fence beam, the fence head comprising:  
a main body;  
a rod having two ends and rotatably connected to the main body;  
a cam disposed at each end of the rod; and  
a handle connected to the rod, where movement of the handle  
20 causes rotation of the cams.

            27. The fence assembly of Claim 26, wherein the fence head further comprising a movable plate contacting each cam.

28. The fence assembly of Claim 26, wherein the rod has a square cross-section.

5           29. A saw comprising:  
a base assembly comprising a base and a table supported by the base;  
a first rail attached to the base assembly; and  
a fence assembly slidably disposed on the first rail and the table, the  
fence assembly comprising a fence beam, and a fence head connected to the  
10 fence beam and slidably disposed on the first rail;  
wherein the fence head comprises contact areas contacting the first rail,  
the contact areas having a radius of curvature larger than radius of the first rail.

30. The saw of Claim 29, wherein the first rail has a circular cross-section.

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31. The saw of Claim 29, wherein the radius of curvature of the contact  
areas are less than infinity.

20           32. A saw comprising:  
a base assembly comprising a base and a table supported by the base;  
a fence assembly slidably disposed on the table, the fence assembly  
comprising a fence beam and a fence head connected to the fence beam;

a plurality of notches disposed on the base assembly; and  
a latch assembly disposed on the fence assembly engageable to at least one of the notches.

5           33. The saw of Claim 32, wherein the plurality of notches are disposed on a detent plate attached to the base assembly.

34. The saw of Claim 32, wherein the detent plate may be slidably attached to the base assembly.

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35. The saw of Claim 32, wherein the latch assembly comprises a slidable pin sliding along a hole in the fence assembly and engaging one of the notches.

15           36. The saw of Claim 32, wherein the base assembly further comprises a first rail having the plurality of notches and the fence assembly disposed thereon.

37. The saw of Claim 32, wherein a scale plate is disposed on the base assembly.

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38. The saw of Claim 32, wherein total number of lines of contact between one of the notches and the pin and between the hole and the pin is less than infinity.

39. The saw of Claim 38, wherein the total number of lines of contact is between 3 and 10.

5           40. The saw of Claim 38, wherein the total number of lines of contact is 4.

41. A saw comprising:

a base assembly comprising a base and a table supported by the base;

a fence assembly slidably disposed on the base assembly, the fence

10 assembly comprising:

a fence beam, and

a fence head connected to the fence beam, the fence head

comprising a main body and a protrusion disposed on the main body;

wherein the base assembly further comprises at least one movable stop,

15 the stop being movable between a first position engaging the protrusion and a second position clearing the protrusion.

42. The saw of Claim 41, wherein the stop is pivotally movable between the first and second positions.

20           43. The saw of Claim 41, wherein the base assembly further comprises a first rail attached to the table, the fence assembly being slidably disposed on the first rail, and the at least one movable stop being disposed on the first rail.



44. A saw comprising:

a table having an underside;

a saw assembly disposed under the table, comprising a rotatable

blade;

5 at least one leg contacting the underside of the table and the floor.

45. The saw of Claim 44, wherein the leg only comprises one piece.

46. The saw of Claim 44, wherein the leg is substantially perpendicular to

10 the table.

47. A fence assembly for disposal on a rail, the fence assembly

comprising:

a fence head, and

15 a window assembly disposed on the fence head for showing position of  
the fence assembly relative to the rail, the window assembly comprising a main  
body having a transparent portion, and a line disposed on the main body being  
separate and parallel to centerline of the transparent portion.

20 48. The fence assembly of Claim 47, wherein the window assembly is  
movable relative to the fence head.

49. The fence assembly of Claim 47, wherein the window assembly is substantially symmetrical.

50. The fence assembly of Claim 47, wherein the window assembly is substantially symmetrical about an axis substantially perpendicular to the line.

51. The fence assembly of Claim 47, wherein the window assembly can be disposed on the fence head when rotated 180°.

52. A fence assembly for disposal on a rail, the fence assembly comprising:  
a fence head, and  
a window assembly disposed on the fence head for showing position of the fence assembly relative to the rail, the window assembly being movable towards the rail for accurate reading of the position.

53. A miter gauge comprising:  
a guide bar having an end;  
a head assembly rotatably attached to the guide bar, the head assembly comprising at least detent notch; and

a latch assembly disposed at the guide bar end for engaging the detent notch, the latch assembly comprising a movable button having a tab for engaging the detent notch, the button being movable between a first position towards the guide bar end and engaging the detent notch, and a second position  
5 away from the guide bar end and disengaging the detent notch.

54. The miter gauge of Claim 53, wherein the latch assembly further comprises a spring biasing the button towards the first position.

10 55. The miter gauge of Claim 53, wherein the detent notch is disposed on a detent plate, which is slidably attached to the head assembly.

56. A miter gauge comprising:

a guide bar;

15 a head assembly rotatably disposed on the guide bar;

a fence slidably attached to the head assembly;

an actuator disposed between the guide bar and the head assembly at one end, and disposed within the fence at the other end;

wherein upon downward movement of the head assembly, the actuator  
20 pulls the fence towards the head assembly.

57. The miter gauge of Claim 56, wherein the head assembly comprises a lower body disposed on the guide bar, and an upper body disposed above the lower body.

5           58. The miter gauge of Claim 57, wherein the actuator is disposed between the lower and upper bodies.

59. The miter gauge of Claim 58, wherein the actuator has an inclined surface that slides along an inclined surface on at least one of the lower and  
10 upper bodies, so that upon, downward movement of the upper body, the actuator moves along a horizontal direction.